Inventions & Innovation Emerging Technology

Polymer-Dispersed Ferroelectric Smectic-C* Display Technology

With this technology, rugged devices can be fabricated, even on plastic substrates. Beam steering devices, such as electrically controllable one- and two-dimensional optical gratings, have been fabricated. Using a photomask during phase separation, this technology has been used to construct a microlens array with a diameter of less than 100 micrometers and a natural focal length ranging from 2 mm to 5 cm. With the help of an electric field, the focal length of the microlenses can be increased to infinity. A focusing lens can be rendered a defocusing lens. This does not appear to be possible with any other technology with such a simple fabrication method.

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